

Summary of Meeting
CALFED Bay-Delta Program Storage/Conveyance Technical Team
April 24, 1997

Key Discussion Items

- An update of DWRSIM modeling activities was presented by Sushil Arora and Stein Buer.
- An update of DWRDSM modeling activities was presented by Francis Chung.
- An update of DWRDSM1 modeling calibration activities was presented by Chris Enright.
- An update of Spreadsheet Post-Processing activities was presented by Mark Cowin, Gary Bardini, and Ben Everett.

Action Items

- 13 studies that Sushil's group has done were presented to the Storage/Conveyance Technical Team including Study # 472 which is the CALFED Benchmark study.
- Draft Operating Parameters for modeling are being circulated to agencies for comments as well as the Storage/Conveyance Technical Team.
- DWRDSM efforts included a review of five configurations and an analysis period from April to May which served as a good test period, due to a wide range in Delta inflows and exports during a sensitive period of the year.
- DWRDSM1 efforts for Suisun Marsh Hydrodynamics and Salinity Model Re-calibrations are ongoing and should be completed in about one month.
- Ongoing work with Spreadsheet Post Processing includes selection of flow event targets for various stations on the Sacramento River and 10-day and monthly ERPP flow event targets.
- Ben Everett from CH2MHill presented the results of a recently completed study for CALFED entitled "CVP/SWP Flood Control Reoperations. The recently completed report is currently being reviewed by CALFED staff.
- The next meeting of the CALFED Storage/Conveyance Technical Team is set for June 26, 1997 from 9:00 to 11:30.

Draft Meeting Notes
CALFED Bay-Delta Program Storage/Conveyance Technical Team
April 24, 1997 at 9:00 am in room 1142 of the Resources Building

Attendance List:

Stein Buer, CALFED (chair)
Waiman Yip, DWR
Bellory Fong, CALFED
Victor Pacheco, CALFED
Michael Norris, CALFED (minutes)
Dave Gore, US Bureau of Reclamation
John Renning, US Bureau of Reclamation
Ted Roefs, US Bureau of Reclamation
Paul Massera, DWR
Ben Everett, CH2MHill/CALFED Consulting Team
Bob Pine, USFWS/CALFED
Mark Cowin, CALFED
Gary Bardini, CALFED
Chris Enright, DWR
Sushil Arora, DWR
Francis Chung, DWR
Paul Sandhu, DWR
Bill Smith, DWR
Scott Cantrell, CALFED
Hari Modi, Northern California Power Association
Naser Bateni, DWR Northern District
Bob Suits, DWR
Stuart Robertson, Bookman-Edmonston Consulting Engineers

Stein convened the meeting and presented an agenda as follows:

- Introductions
- DWRSIM modeling activities
- DWRDSM modeling activities
- DWRDSM1 calibration progress report
- Spreadsheet Post-Processing Update

Stein noted that documents which included the inventory report and status report on technical studies were distributed at the CALFED Storage and Conveyance Public Workshop on March 20 at the Sacramento Convention Center.

Sushil Arora discussed DWRSIM activities as listed on a 2-page handout entitled Test DWRSIM Study Results for CALFED Environmental and Water Supply Benefits. The handout notes 13 studies that Sushil's group was directed to do about two months ago. Study # 472 is the

CALFED Benchmark study. Some studies refer to South Delta Improvements (SDI), an Isolated Facility (IF), North Delta Surface Storage (NDSS), or Max Wheeling (which means that the State is pumping federal CVP water).

Sushil noted that “take” is not modeled. Rather, the water quality control plans are what is modeled. Since “take” restrictions on pumping depend on the number of winter run or delta smelt caught at the screens, they cannot be modeled. Sushil said the studies do not have any groundwater operation in them. Ted Roefs asked for an explanation of what “addwater” is and Sushil said it is real water that would be available (DWRSIM uses a portion of Tuolumne and Merced River runoff for “addwater”). According to Roefs, the “addwater” concept is not used in the modeling done on the federal side using PROSIM.

Sushil noted the list of studies on the first page of the handout include sensitivity analyses. “Flushing” refers to a “Sacramento River Flow Event Target”. Ted Roefs asked if there is overlap between these studies and the ones the State Water Resources Control Board is doing and Sushil said there would be some overlap. Some studies refer to Net Delta Outflow (NDO). Roefs noted the numbers don’t always add up and it was noted that’s because the “thousand acre feet per year” values are rounded to the nearest 10,000.

Stein Buer discussed the 3-page handout on Operating Parameters. Stein said the handout is being circulated to agencies for comments and he also welcomed comments from the Storage/Conveyance Technical Team. Hari Modi asked about the “priority” of operations shown on the handout. Stein said that the priorities refer to the filling and discharging priorities for the various facilities modeled in the spreadsheet.

Francis Chung discussed a 1-page handout entitled Delta Modeling in Support of CALFED Storage and Conveyance Analysis. According to Francis, the handout outlines “what has been done”. Five configurations including the existing system, south delta improvements, north delta improvements, north delta improvements with a diversion at Hood, and the CUWA alternative were selected. The period of April and May was selected since this served as a good test period due to a wide range in Delta inflows and exports during a sensitive period of the year. Three sub-periods within that two-month period were selected based on south Delta barrier operations. Outputs were selected based on “baseline premise”. Mass tracking studies were done but not salinity, which will be done in the near future. According to Francis, mass tracking is “neutrally buoyant” and, like dye, has no effect on the system. Ted Roefs thought an injection point at Carquinez might be appropriate based on Bromide concerns expressed by Rick Woodard. Lastly, there are two modes of comparison and the Chain-of-Lakes alternative was studied with emphasis being put on evaluating the internal hydraulics of the configuration.

Francis then discussed the Ongoing Efforts. The Multiple Intake option is being studied in response to concerns expressed by EPA representative Bruce Herbold. Also, an Isolated Facility component analysis is being done. Lastly, a 15-year simulation from 1977-1991 is being modeled in lieu of the customary 73-year simulation from 1922-1991 as further outlined on a 2-

page handout that Francis distributed. The 15-year simulation may be adjusted by one or two years to pick up a critical drought event.

Chris Enright provided a progress report on DWRDSM1 recalibration. He said the work in his group is being done because of concern that have been raised about the model not being adequately calibrated. Chris distributed a 22-page handout that thoroughly detailed the work being done in his unit. The handout followed overhead transparencies one by one and included computer web access to re-calibration results and DSM1 Suisun Marsh Version Hydrodynamics Re-calibration Status. The hydrodynamic results were shown on stage and flow plots and tidal day average flow plots. DSM1 Suisun Marsh Version Salinity Model Re-calibration Status was also presented. The salinity results were shown on TDS plots. Chris didn't want to spend a lot of time discussing each plot but did note an individual plot of salinity at Martinez as an example of work that his group still has to do. The plot shows the model not picking up the low ranges of salinity compared to field data for the months of October and November which results in the model estimating on the high side. Then the model drops and takes a while to rebound for the approximate time period of January to September which results in the model estimating on the low side when compared to the field data. This is an example of calibration work that remains to be done according to Chris and he estimates they need one more month to complete this calibration work. Chris also took the opportunity to offer his groups services to other groups that are engaged in similar efforts.

Mark Cowin began a discussion of an update on Spreadsheet Post Processing. Mark turned the discussion over to Victor Pacheco who showed overheads for south-of-delta facilities and some differences with upstream-of-delta facilities. Victor illustrated with overheads the "flow event target" for various Sacramento River stations.

Gary Bardini gave an update on modeling related to the Environmental Restoration Program Plan (ERPP) and distributed a 2-page handout. Gary discussed the "10-day" and "monthly" flow event target. Bob Pine asked how the model deals with increases in flows combined with decreases in exports and Mark said that ERPP water will not become additional export water but will instead become delta outflow.

Ben Everett from CH2MHill discussed the results of a recently completed study for CALFED entitled "CVP/SWP Flood Control Reoperations". Due to the recent flood events, questions were raised about whether upstream reservoirs such as Shasta and Oroville could be reoperated for additional flood control. Ben said the Spreadsheet Post Processing results can clip off some excess storage in above average wet years and can enhance yield in some instances but extremely wet years could not rely on this reoperation for flood protection. Ben's report is presently being reviewed by CALFED staff.

Stein closed the meeting and scheduled the next meeting of the CALFED Storage/Conveyance Technical Team for June 26, 1997 from 9:00 to 11:30 in a room to be determined.